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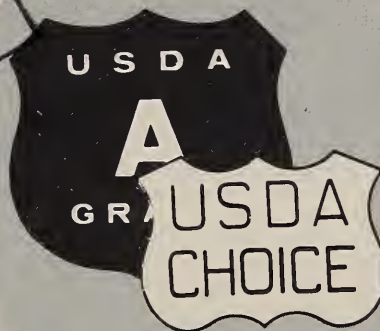
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AMS SERVICES IN 1964



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Cover Page

The illustrations on this month's cover are only suggestive of the wide range of services performed by AMS to strengthen agricultural marketing. For details, see page 4.

Editor, JAMES A. HORTON

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Their Biggest
Merchandising
Challenge in History



The eager youngster at left smacks his lips after making another cherry tree go "boom." He's only following our first President, of course. Cherries are a national favorite. It takes a real artist, like the one at right, to do justice to the almost unlimited culinary merits of red tart cherries. The use of cherries is myriad—in pies, cakes, ice cream, cookies—well, you name it.

Marketing A Record Cherry Crop

THE LONG-familiar words that "Life is just a bowl of cherries" may have a slightly sardonic ring to the Nation's red tart cherry growers this year. For the U. S. Department of Agriculture has estimated the 1964 crop at a record-breaking 240,750 tons—nearly three times the size of last year's small turnout, and a sharp 72% above average.

The crop is greater than 1963's in all commercial cherry-growing States except Washington, where it was the same as a year earlier. Michigan's crop—a record 160,000 tons—comprised about two thirds of total 1964 output.

This means that the red tart cherry industry is facing the biggest merchandising challenge in its history. Realizing this, cherry growers and processors, working through the Red Cherry Institute, have moved quickly to approve a record budget of \$275,000 for this year's merchandising program. Also, they have asked the USDA's Agricultural Marketing Service to lend a helping hand. The Government-industry campaign is scheduled to reach its peak in February.

AMS is aiding the cherry industry in several ways through the Plentiful

Foods Program. The Department has also issued four special red tart cherry program fact sheets, developed with emphasis on the important baking trade, food distributors, the food service industry and the National School Lunch Program, which serves as many as 70,000 schools across the country.

The baker and school lunch releases are the one-page flyer type, with the theme "Cheery Cherry Time." The food service release is a four-pager, "Cherry Baking Time." The art for this release has been made into a colorful TV slide for use during the peak of the promotion. AMS' food distributor version features retailer merchandising suggestions for canned tart cherries and cherry products.

The industry is also being assisted in its marketing campaign by national advertising programs in not only the bakery, food service, and retail grocery industries, but by direct mail featuring point-of-sale merchandising for cherries and their related foods. Food publicity work with food editors, and through national full color advertisements, are among the numerous forms of consumer information being used widely.

AMS is helping the cherry industry

in yet another way. Its recent purchases of canned cherries for distribution in the National School Lunch Program total 630,000 cases of No. 10 cans. This provides 5½ servings each for the 17 million children in the 50 States and the Caribbean area that are participating in the lunch program.

Greatly increased quantities of red tart cherries have been canned and frozen this year. The frozen pack is a record, since slightly more than half the cherries delivered to processors this year were used for freezing. Although carryover stocks at mid-year had fallen to the lowest level in several years, by the end of the summer stocks totaled about 81,250 tons, some 30,000 tons larger than the five-year average. The canned pack is also large this season—4,800,000 cases—the third largest of record.

Quite naturally, the heavy 1964 crop affected prices. The average price received per ton by growers showed a big slump—47% less than the \$189 they received a year earlier. In the four heaviest-producing Great Lake States, prices paid for 1964 red tart cherries averaged just about one-half the 1963 price.

Progress Report on AMS Services in Food Distribution, Standards, Inspection, Grading, Market News, Regulation, Matching Funds, Food for Defense, and Surplus Removal.

A Roundup of AMS Services In 1964

PROGRESS in the U. S. Department of Agriculture's marketing programs during fiscal 1964 included extension of food distribution programs to more needy families, institutions and school children; an updating of standards for wheat and feeder cattle; issuance of minimum meat regulations for prepared poultry products; development of grades for more products; a more economical administration of marketing programs; and new areas of cooperation with State departments of agriculture—USDA said recently.

Here is a summary of accomplishments during the year under programs administered by USDA's Agricultural Marketing Service.

Food Distribution

AMS expanded markets for farm products, helped to improve Americans' diets and to share our national food abundance with the undernourished and underprivileged through:

- The National School Lunch Program under which nourishing, well-balanced lunches were served to 16 million children—a million more than in fiscal 1963 and a third of all those in elementary and secondary schools. Among them were 65,000 children in "pockets of need" in 14 States who get lunches free or for a few cents because of special assistance provided for the first time from cash and USDA food donations to selected needy schools.

It was a noteworthy start—but only a start—toward helping the more than 30 million children who do not participate regularly in a school lunch program. And many of these are children who need it most.

- The Special Milk Program through which children in about 92,000 schools, child-care centers, summer camps, orphanages and similar institutions were provided 2.9 billion half-pints of milk at reduced cost, to improve diets and expand local dairy markets (the 1963 comparison was more than 90,000 outlets and about 2.8 billion half-pints). These 2.9 billion half-pints, added to the 2.7 billion half-pints served with each meal under the National School Lunch Program, represent more than

5 percent of all fluid milk moving from U. S. dairy farms to consumers.

- Distribution of 2.1 billion pounds of food, valued at \$429.5 million to school children and needy persons in institutions and in families in all States and territories—contrasted with 2.2 billion pounds valued at \$413.3 million in fiscal 1963. The family food donation program reached more people with a greater variety of food than at any time in recent years. Among the 15 commodities donated were flour, cornmeal, rice, lard, nonfat dry milk, canned meat, butter, peanut butter, cheese, dried eggs, and cereals.

- Emergency distribution of USDA-donated foods—313,000 pounds valued at \$62,000—to 21,500 victims of 18 hurricanes, floods, and other natural disasters in 16 States. In 1963 it was 1.1 million pounds valued at \$179,000 distributed to 57,000 victims in 8 States and Puerto Rico.

- The Food Stamp Program which operated in 40 counties and 3 cities in 22 States, enabling a peak of 392,000 persons to buy more and better food through normal trade channels with Government coupons. The Federal Government contributed more than \$28 million in food coupons which flowed into the economy of food stamp areas and supplemented the \$45 million spent by participants, as their share, for coupons. (In 1963 the program operated in 39 counties and 3 cities in 21 States with 368,000 recipients. The Federal contribution was \$18.6 million supplementing recipients' \$31.2 million.) The Federal contribution represents increased food purchasing power for low-income families, added business activity for communities, and expanded markets for farm products. Under a law passed in August, the Food Stamp Program will be expanded this fiscal year, to operate in 41 States and the District of Columbia.

- The Plentiful Foods Program, conducted nationwide to help move foods in heavy supply, the most intensive campaign being for beef. Other campaigns were for milk and dairy products, wheat flour, potatoes, pecans, canned corn, and canned tuna, the latter conducted cooperatively with the Interior Department. Thirty regional

promotions were conducted for food in heavy supply only in certain areas of the country.

Standards

AMS developed new and revised previously issued nationally uniform standards for farm products. These standards aid in more efficient trade across the country and provide consumers with a guide to quality. Work accomplished during the year included:

- A major revision of U. S. wheat standards to improve the marketability of U. S. wheat;
- A tightening of requirements for top-quality U. S. Grade AA (Fresh Fancy Quality) and U. S. Grade A eggs;
- Proposed new standards for beef that would include "cutability;"
- The launching of studies to develop cutability standards for live cattle, lamb, and mutton;
- The drafting of standards for feeder pig grades;
- Field tests of proposed standards for feeder cattle grades;
- A major revision of U. S. standards for apples, and revision of standards for canned grapefruit juice, canned pears, canned tomatoes, canned and frozen red tart pitted cherries, frozen French fried potatoes, almonds, sweet peppers, radishes, and table grapes;
- New standards for use in grower-processor contracts on potatoes, tomatoes and mushrooms.

Inspection

AMS inspected the wholesomeness of 88 percent of all poultry produced in the U. S. and reinspected an additional 1½ billion pounds of poultry in cut-up form or as convenience products such as frozen and canned poultry foods. AMS also issued regulations—effective January 1, 1965—to establish minimum meat content for Federally inspected prepared poultry products such as dried, liquid and frozen soups; prepared dinners; pies; patties; and fricassees.

Grading

Consumers as well as processors were able to buy more products by grade during the year, as the volume of products graded under Federal-State programs continued to climb. AMS either graded or supervised the grading of:

- Half the butter, cheese, and non-

fat dry milk produced in the U. S. —5.7 billion pounds;

- More than one-half of the beef;
- Half of the lamb;
- Two-thirds of the ready-to-cook poultry;
- One-fifth of the shell eggs;
- Three-quarters of the frozen fruits and vegetables;
- One-quarter of the canned fruits and vegetables;
- Most of the grain that moved off farms;
- Nearly all of the cotton;
- All of the tobacco sold at auction.

Market News

Federal-State market news services help farmers in deciding where and when to market their products to best advantage, and help in keeping a steady supply of products flowing to markets where needed. To keep pace with changing marketing conditions and practices during 1964 AMS:

- Increased the efficiency of its 19,000-mile teletype market news system through technical improvements;
- Made arrangements which led to the broadcasting of livestock, meat, and wool reports through 15 additional major cities, and to publication of these reports in about 25 additional newspapers;
- Mailed more than a million mimeographed reports to some 20,000 livestock marketing and related interests;
- Discontinued 16 dairy and poultry market news projects, revised 27, initiated 24 new projects and did a continuing study of 32 others at the request of the trade;
- Expanded grain market news into production areas of Illinois and the Mountain States;
- Sent more than 1.4 million copies of market news and quality reports to cotton producers, shippers, dealers, manufacturers and others in the cotton industry;
- Sent a million copies of market news reports to tobacco producers selling through the 175 auction markets, and to radio, television and press outlets in the tobacco marketing areas;
- Sent market news gathered by 70 reporters at terminal markets and shipping points across the country to fruit and vegetable producers, and others.

Regulation

AMS strengthened its regulatory programs—which protect the financial

interests of farmers, as well as of marketers, and consumers, and safeguard our free, competitive marketing system. Work in 1964 included:

- An investigation of 3,500 new complaints received from the industry under the Packers and Stockyards Act—an increase of 700 over last year. P & S assures reasonable marketing charges to livestock producers and provides protection against monopoly practices which restrict competition, and misrepresentation of quality or weight in the marketing of livestock, meat and poultry;
- Closing 2,184 cases under the Perishable Agricultural Commodities Act—a slight reduction from last year. PACA establishes a code of good business conduct for trading in fresh and frozen fruits and vegetables, and requires firms in interstate trading in these commodities to be licensed;
- Supervision of 1,824 public warehouses in 39 States, under terms of the U. S. Warehouse Act, to provide assurance of safe storage of farm products. The licensed warehouses have a total grain capacity of 1.36 billion bushels, and a cotton storage capacity of 14.7 million bales;
- Running 43,000 tests on 16,000 samples of seed (21 percent less than a year earlier) to continue the effectiveness of the Federal Seed Act in protecting the interests of consumers, farmers, and all who deal in seeds;
- Presentation of evidence on rate and service matters in 115 separate actions before rate bureaus and regulatory agencies, to help hold down marketing costs for farmers and agricultural shippers and to improve transportation services and facilities.

Agreements & Orders

AMS administered marketing agreements and orders which assure producers and consumers of orderly marketing conditions and, therefore, of stable prices and supplies. The work included administration of:

- Federal milk marketing orders under which more than 53 billion pounds of milk were delivered by about 172,000 farmers who received specified minimum prices. Milk sold by handlers in the 82 Federal order markets supplied about two-thirds of the total non-farm population of the Nation;
- 43 fruit, vegetable, and tree nut marketing agreements and orders in 23

(Continued on page 11)

A Fast Method For Determining Grass Seed Purity

By Raymond A. Stermer

IT MAY have taken a seed laboratory several hours to make the purity analysis for the seed you buy for your lawn or pasture. A flotation technique now being tested may reduce this time to only 10 minutes—even for small, hard-to-test seeds.

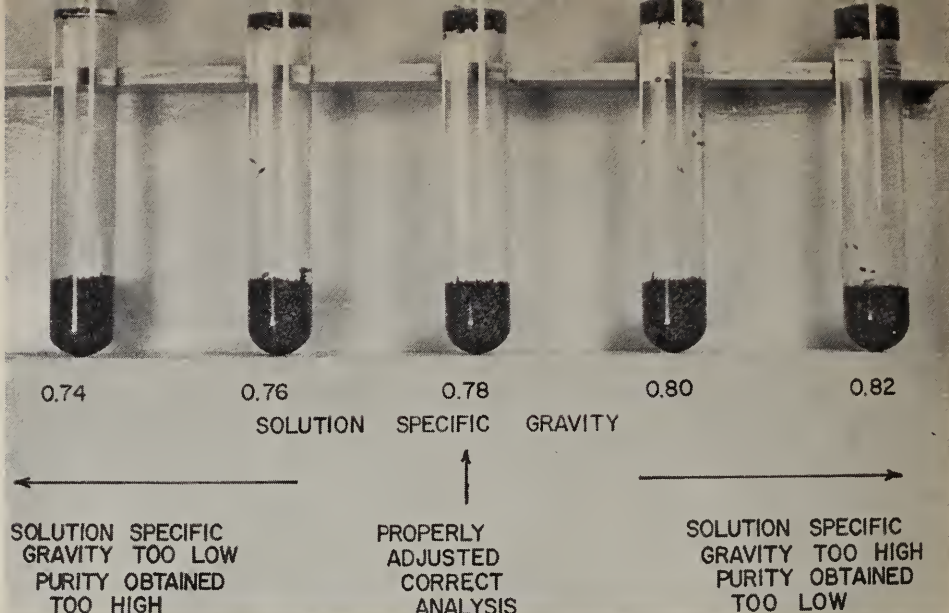
Scientists in the U. S. Department of Agriculture's Agricultural Research Service and the Texas Agricultural Experiment Station have made fast, accurate analyses of bahiagrass, dallisgrass, orchardgrass, and Kentucky bluegrass seed with the new technique.

Although flotation analysis has not yet been perfected to the point where it can be recommended for routine seed tests, it offers one of the most promising possibilities of shortening testing time for several important kinds of grass seeds. Faster testing, if it did not sacrifice accuracy, would help maintain the high quality consumers demand in seeds while reducing testing costs.

The flotation technique's accuracy comes close to the nearly perfect accuracy that can be obtained by hand analysis of seed purity. Purity analyses by flotation differed from those made by the hand method by less than 2 percent, in most of the tests. Errors with the flotation technique ranged from less than 1 percent to, in one instance, 4½ percent.

In errors with the flotation technique, some pure seeds were skimmed off with inert seeds, and some inert seeds remained with the pure seeds. Small seed samples (2 grams) were used in the tests; use of larger samples could reduce errors with the flotation technique to less than those in the preliminary tests.

Air blasting, X-ray, and hand methods



Specific gravity makes the difference. Dead seeds float on surface, pure seeds fall to bottom (middle tube). Dead seeds are mixed among pure seeds at bottom of two tubes at left. Pure seeds float among dead seeds in two tubes at right.

have several disadvantages when used in making purity analyses. Pure seed is sometimes difficult to separate from inert matter with such techniques because pure and inert seeds may cling together; differences in size and weight may be too small; or the seed may be crushed by forceps used in hand analysis.

The flotation technique overcomes these difficulties and is, in addition, simple and inexpensive. The three basic steps in the flotation analysis are: place seed samples in a test tube containing solvents prepared beforehand, stir the seeds and solvent briefly and skim off the floating material, and strain from the solvent the heavy portion of the sample (pure seed) remaining in the test tube.

Before testing seeds, the seed analyst combines solvents of low and high specific gravity to prepare a solvent with the desired specific gravity for the seed being tested. Additional tests are being made to determine the specific gravity needed for solvents for use in testing a wider range of seeds than the four kinds used in the preliminary tests. Surface tension of the solvents is also being studied to determine its effects on the accuracy of the flotation technique.

Solvents can be re-used many times by adjusting the specific gravity after each test. Only a small amount of solvent is needed—about five times the volume of the seed sample—to permit free movement of the seeds in the test tube.

Solvents used with good results in the tests include hexane, pentane, and ethanol. They were used in combination with water, carbon tetrachloride, or trichloroethylene.

Germination of seeds in preliminary tests was not significantly affected by the flotation technique when using a hexane-carbon tetrachloride solvent mixture. Solvents containing carbon tetrachloride could be harmful to the seed analyst, however. Studies are being made with additional solvents and supplementary techniques, to eliminate potential toxicity hazards to seeds and seed analysts.

Any possible effects on germination could be minimized by rinsing the solvent from the seeds or by allowing it to evaporate as the seeds dry in the air. Higher germination resulted when seeds were dried in the air for 4 hours after flotation than when seeds were rinsed in water immediately after flotation.

Weed seeds, other crop seeds, and extraneous matter did not interfere with separation of inert seeds by flotation because the extraneous material was removed before the purity analysis was made. Removal of the extraneous material, requiring little time, is routinely followed when making noxious seed examinations, and could be done in routine tests before making purity analyses with the flotation technique.

Further studies are being made to determine if mechanical methods can be used to separate the multiple florets of orchardgrass, which can interfere with the flotation technique. The florets were separated by hand in preliminary tests.

Results of further studies will be published after tests are completed.

The author is a member of the Market Quality Research Division, ARS, stationed at College Station, Texas.



They Love Apples

By Rhea Zinman

APPLES "help clean your teeth. Apples are healthy to eat for lunch. Apples make rosy cheeks. I love apples," recently wrote an apple-cheeked 3rd grader in a New York City elementary school.

The youngster's letter was addressed to Joseph Kane, Food Trades Program Supervisor of the U. S. Department of Agriculture's Marketing Service in New York, who spearheaded a school-wide apple party as part of an intensive USDA Plentiful Foods Program to help increase consumption of this year's big crop.

The school-wide apple party was staged jointly by the local apple industry and USDA's Agricultural Marketing Service in cooperation with the Home Economics staff of the New York City Board of Education. The apples—red, gold, and deliciously juicy—were a gift to the city's school children from the industry as part of National Apple Week, 1964.

Children in Home Living classes in many of the city's elementary, junior and senior high schools, and in institutions not only ate apples but learned how good they are nutritionally and why. Mr. Kane and his staff saw to that by distributing informational material along with the apples. This was an important phase of the campaign, as attested to by the junior high school home economics teacher who wrote: "We were able to use the printed material distributed with the apples in all the food classes."

Use of apples and information about them in the schools is developing new customers for this most popular of American fruits—especially among the children of foreign-born parents, who come from tropical Latin American lands where apples either aren't grown on a commercial scale or are too expensive for everyday eating.

Wrote a Staten Island junior high school teacher: "Many thanks and much appreciation for those lovely apples sent to us for National Apple Week. It gave us an opportunity to illustrate the many ways this kind of apple (Red and Golden Delicious) may be used. . . Even though it's hard to believe some of the students had never seen them."

Will the children pass along this newly acquired taste to their families? Probably. If so they will be instrumental in developing a bigger market for apples, as they do for other foods they learn to know and enjoy at school.

In the winter ahead, when apples will be abundant, the Plentiful Foods Program will encourage mothers to indulge their youngsters' partiality for them. The humdinger 1964 apple crop ranks largest since 1937. Latest estimates forecast 141 million bushels, with all the most popular varieties figuring in the increase—Red and Golden Delicious, McIntosh, Spy, Jonathan and other eating, cooking and baking apples. Expected to continue among the top buys at the markets, apples should be a great lure to the consumer with a tight food budget.

With the help of the Plentiful Foods Program, apples promise to be featured wherever food is sold or served, lauded in the food pages of newspapers and magazines, and over the air. Consumers will be told that as a frequent dessert, salad and garnish dish—and otherwise, too—this fruit has few peers.

Apples, applesauce, and other apple delicacies will also appear often on school lunch menus this year—courtesy the U. S. Department of Agriculture. Special funds allocated by Congress to buy plentiful and nutritious foods for donation to schools participating in the National School Lunch Program will go for this purpose. Since apples are a general favorite with the youngsters, the schools themselves may well buy fresh apples locally to round out their menu needs.

Working closely with the apple industry, the Agricultural Marketing Service will continue to sustain and further develop consumer interest in apples through its Plentiful Foods Program, just as it does with many other abundant foods. Creating an ever growing market for one of the Nation's more important agricultural foods, the Program will aid both the apple industry and consumers, who together may more fully enjoy and benefit from the bounties of American farm productivity.

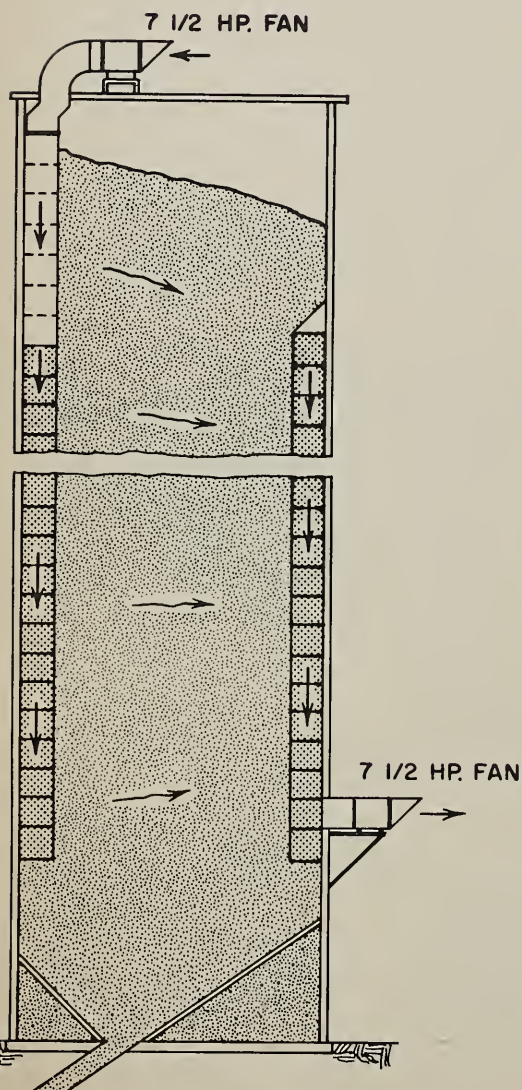
(The author is a staff member of the Northeast Area Office, Marketing Information Division, AMS, in New York City.)



These high school students are enjoying a Waldorf Salad, a fruit (Sunburst) salad and refrigerator ice cream cake prepared in their home economics class.

Better Ventilation in Grain Storage Bins

By Harry H. Converse



AN EXPERIMENTAL crossflow aeration system reduces the risk of spoilage of moist, newly harvested grain during storage. The new system moves as much as five times more air through the stored grain than do a number of other aeration systems. The improved system is being tested by the U. S. Department of Agriculture at a commercial elevator.

USDA's Agricultural Research Service has developed the new system to provide crossflow ventilation of grain stored in large, upright concrete bins. The new ventilation system has given good results with wheat and grain sorghum in preliminary tests. Equally good results could be expected if the system were used with other small grains, researchers say.

A reduction in moisture content of only 1 to 2 percent is all that is needed, in many cases, to improve the storage quality of newly harvested grain. Although temperature reduction is also important, it does not have to be lowered as fast as the moisture content to maintain the quality of the grain.

The new ventilation system reduced moisture content sufficiently to improve the grade designation in one test with 25,000 bushels of wheat. Grain used in this test graded No. 1 HW Tough, when it went in the bin. When it was loaded out, about 3 weeks later, it graded No. 1 HW.

During the 3-week test, the experimental system's fans were operated during clear, daylight hours (when air is driest) for a total of 120 hours. In this period, the moisture content of the grain went down from an initial average of about 14 percent to about 13 percent. An estimated seven tons of water were removed from the grain in this storage interval.

Newly harvested grain sorghum was used in four other tests. In the best results, moisture content was reduced from an initial 14 percent to slightly below 13 percent. The grain sorghum was ventilated 186 hours in the test in which these results were obtained.

Although moisture reduction is the most important objective of the experimental system, fast results were also obtained in reducing the grain temperature. In one test, the temperature of 25,000 bushels of wheat dropped 15 degrees, from an initial 88° to 72° F., in only 24 hours.

Grain samples, taken at 5-minute intervals as the grain was loaded in, and again when removed from the bin, ranged from 82° to 90° F., initially, and from 65° to 78° F., after continuous ventilation for 24 hours.

This fast drop in temperature was achieved by ventilating the grain with outside air having temperatures below 75° F. Higher air temperatures would do an equally good job, as long as the air temperatures were significantly lower than that of the grain.

Air temperatures as high as 93° F. were used in one test with 25,000 bushels of wheat. The average temperature of the wheat dropped, in 24 hours, from an initial average of 93° to 84° F.—a 9-degree drop. Initial temperatures of the wheat ranged from 82° to 104° F. and, after 24 hours, from 76° to 87° F. Moisture content did not change appreciably in the 24-hour test.

The experimental ventilation system is being tested in a bin with an inside diameter of 17 feet, and a height of 140 feet. Two ducts have been installed in the bin; each duct is connected to a fan outside the bin.

The use of two fans is unique with the experimental ventilation system. Only one fan is used in other crossflow systems.

Crossflow ventilation moves air with less difficulty than vertical air flow from the bottom of the bin, because air passes through only 17 feet of grain (the width of the bin) instead of through 100 feet or more (the height of the bin). Moreover, vertical ventilation systems often achieve an inadequate airflow for drying—about 1/20 or 1/10 cubic foot per minute, per bushel. In contrast, the experimental system moves at least three times more air—1/3 cfm per bushel, or more—through the grain when both fans are operating.

The perforated ducts in the experimental system extend about 130 feet down opposite sides of the bin. A fan on the roof of the bin forces air into the first duct, horizontally across the grain. Ductwork closest to the fan is unperforated, to force air downward into the duct before it passes into the grain.

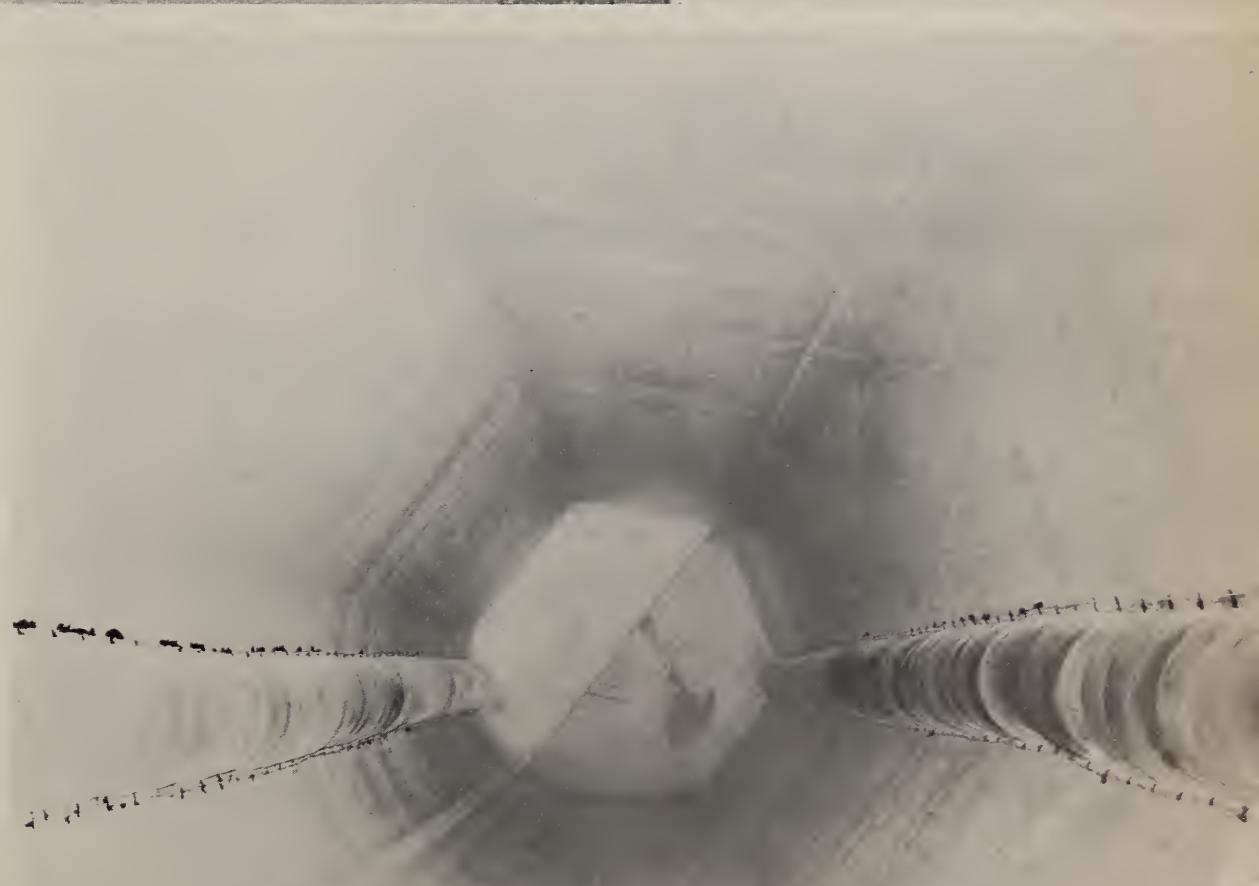
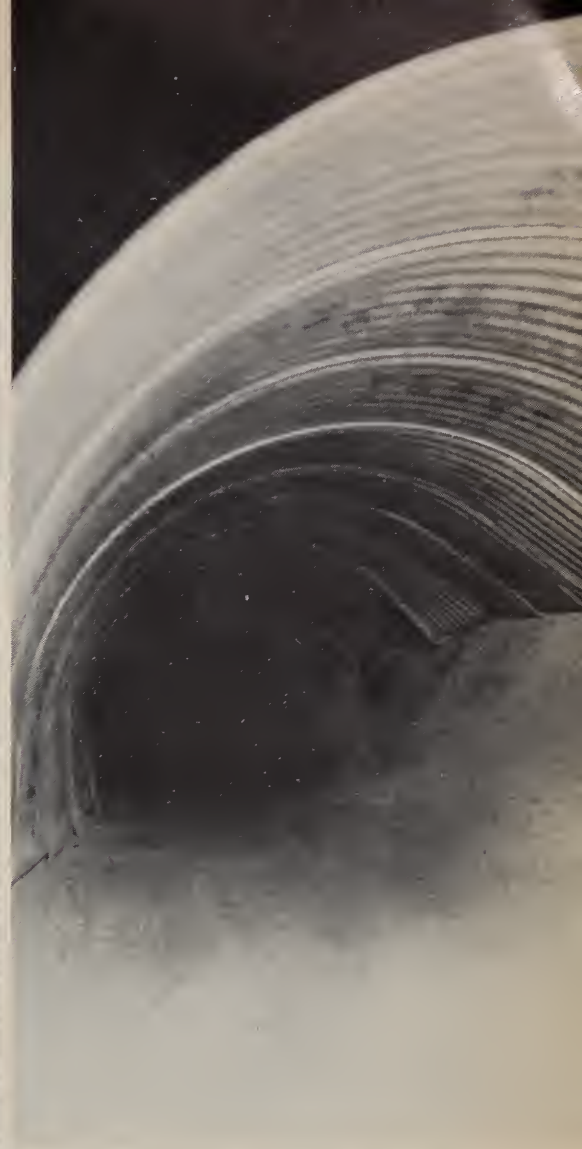
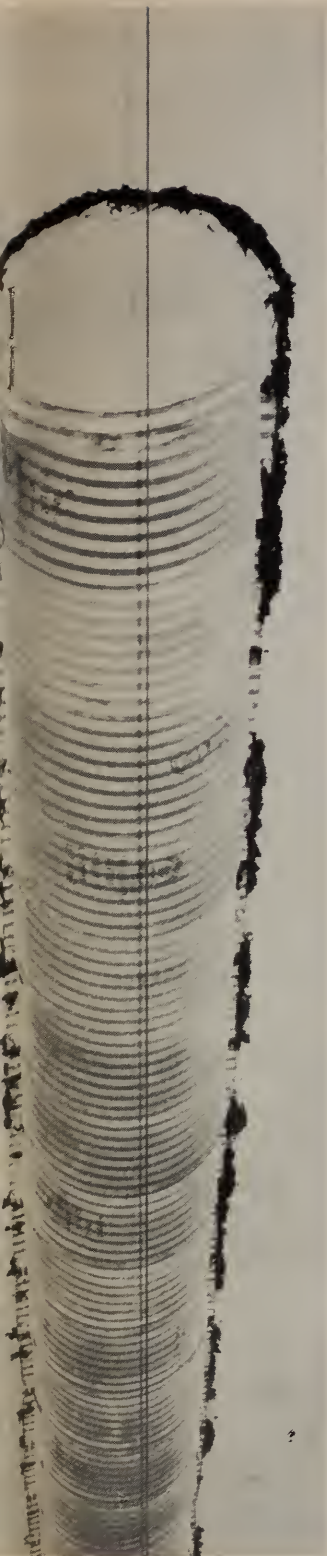
The second duct is attached to the wall opposite the first duct. An outlet leads to the second fan, which exhausts air from the duct.

Both half-round ducts consist of overlapping sections of corrugated metal sheeting, about 35 inches wide, 26 inches long, and with a radius of 17 inches.

Results of further tests will be published when tests are completed.

(The author is a member of the Transportation and Facilities Research Division, ARS, stationed at Manhattan, Kansas.)

Five times more air circulates through grain in bins equipped with the new crossflow ventilation than through those equipped with other kinds of ventilation systems. Bin is 140 feet tall, 17 feet in diameter, and is being used in tests with 25,000-bushel lots of wheat and grain sorghum. The 7½ h.p. fan below draws air out of the bin.



Above, an interior view of the bin showing the exhaust duct. Black marks are caking; the cable is connected to research instruments. Arrows in diagram at left indicate air-flow pattern.

Selling Dairy Products to Europe

By Harold E. Meister

EXPORTS of dairy products have turned sharply upward during the last two years—to play a big role in determining domestic dairy market conditions.

On a whole milk equivalent basis, exports during 1963 accounted for nearly 4 percent of total milk production, with the European market taking the greatest share of these \$231 million worth of export shipments.

Why did the United States increase its share in the European market during 1963? There are a number of reasons.

Europe experienced a very harsh winter in 1962-63. Fewer cows, higher prices for feed, and other factors held milk production in Western Europe at 1962 levels. Cows in Denmark, France, West Germany, Italy, The Netherlands, and the United Kingdom dropped from about 30 million head in 1961 to fewer than 27 million in 1963. And, just as important, was a 33-pound drop in average production per cow in these six countries.

Lower butter production resulted from the static level of milk production in Europe, combined with the use of more milk for fluid purposes. Availability of butter for shipment on the continent and to the United Kingdom was reduced, while demand for butter and nonfat dry milk continued strong. These were the biggest reasons for our increased commercial butter sales to Europe.

Let us not, however, relax and say, "It takes a bad year in Europe for us to sell any product." Butter sales to Europe this year (1964) are again significant—in fact, well above the 1963 level of trade. Part of the reason lies in factors cited above. Other reasons lie in Europe's economic growth and its shifting consumption pattern.

Since my first trip to Europe in 1959, I have been continually amazed at the social and economic progress that has been made in that part of the world. Population has shown constant growth since the end of World War II and reached 300 million in 1960. It's projected to 321 million in 1970—and 352 million in 1980.

Along with the population gain has come a rate of economic growth that has assured a continuous increase in per capita incomes. Income largely determines the level of food consumption and shapes the consumption pattern.

Just as has happened in the United States, Europeans are shifting their consumption patterns from starchy foods (high in carbohydrates) to livestock products (high in protein).

Milk and dairy products consumption has always been fairly high in Europe. Of the Western European countries, only Italy consumes less dairy products per person than does the United States.

Consumption of beef, veal, and pork is also growing in Europe. For example, West Germany's meat consumption per person rose from 81 pounds in 1950-51 to 137 pounds in 1963. European countries—particularly those in the European Economic Community (EEC)—are emphasizing livestock production.

Under the new EEC regulations, which went into effect November 1, the common target price level is a key factor in determining future production, consumption, and trade patterns of the EEC. The target price is similar to the United States' support price for milk, and will affect the price at which products from third countries can enter the market. Indications are that the EEC dairy policy will tend to deter imports from third party or non-member countries. But, President Lyndon Johnson has said, "We are willing to offer the free nations access to our American markets—but we expect, and we must have, access to theirs as well. That applies to our agricultural as well as our industrial exports."

Many things have been done and many programs started in recent years to increase exports of U. S. dairy products and to lower international trade barriers for these products.

Butter Export Specification

The Dairy Division of the Agricultural Marketing Service, U. S. Department of Agriculture, plays an important part in foreign market development activities for dairy products by providing technical guidance on

product characteristics needed for certain market areas. For instance, we have been cooperating with butter industry representatives, Dairy Society International, and USDA's Foreign Agricultural Service in developing an export specification for U. S. butter. Our studies of European butter plants and personal observation of their butter packaging and distribution were helpful. In addition, we obtained butter samples from Denmark, Holland, Germany, Belgium, and Austria to study the quality and body and texture characteristics.

The export specification for butter provides a yardstick to measure the acceptability of butter for export to Europe and other parts of the world. In Europe, for example, they want unsalted butter, containing a minimum of 82 percent fat, and not over 16 percent moisture. And they want butter that has been manufactured with careful workmanship—resulting in fine moisture dispersion, good spreadability, and dependable keeping quality. The specification will also provide composition and bacteriological standards for both unsalted and salted butter and will include recommended packaging material.

European countries almost exclusively use *unsalted* butter—made from *cultured* cream. Consumption of butter per person is about 12 pounds in Holland, Austria, and Switzerland; 16-19 pounds in West Germany, France, and Belgium; and 23 pounds in Denmark. And the retail price ranges from 80 cents to \$1.00.

Why are consumers in Europe continuing to use butter? Most important reason is the delightful cultured cream flavor—developed by adding starter and permitting the cream to ripen overnight before churning. Plain bread and butter sandwiches are standard in the European working man's lunchbox; and cultured cream butter flavor surely makes these sandwiches tasty!

Other reasons why their butter is desirable are its excellent workmanship. Leaky body is almost unheard of. Spreadability is good and probably enhanced by the fact that most of the butter is printed soft from the churn. Finally, the butter is tightly wrapped in aluminum foil wrappers.

American consumers are showing a tremendous interest in cultured cream flavor as evidenced by the large increases in sales of sour cream. The U. S. butter industry should recognize the sales potential for fine-quality, cultured cream butter.

The AMS Dairy Division—through its Inspection and Grading Branch—provides inspection and grading services for products exported under Public Law 480, Payment In Kind, and Government purchases at announced or bid prices. Inspection and grading of any product for export depends, first, on a satisfactory survey of the manufacturing plant. Products are inspected and a laboratory analysis performed to make sure they comply with terms and conditions of the sale.

International Standards

The pace of world trade in food has been accelerated by the development of trading areas throughout the world, improved transportation facilities, and new food technology. This has brought on a new urgency for international standards that would facilitate trade and, at the same time, protect consumers and insure fair practices. We are accustomed to a good set of standards of identity for dairy products, but such standards are not available in most other countries.

We in USDA have cooperated in developing international standards for dairy products for about eight years. During this time, we have been impressed with the unselfish intent of representatives from various countries in trying to draw up an international standard.

Work on international standards—for voluntary adoption by countries—is now under the leadership of the United Nations' Food and Agriculture Organization and World Health Organization, and is being carried out by the Codex Alimentarius Commission—the coordinating body for the many FAO Committees of Experts. (A description of this work was carried in the August 1964 issue of *Agricultural Marketing*.)

In the past, the United States dairy industry has been indifferent toward exporting dairy products, considering that demand would be temporary. Some people have not only changed their views, but they have actively cooperated with the U. S. Department of Agriculture in developing programs which make possible the export of dairy products.

Those who have stopped to look at the dairy export situation are struck

by the importance of *quality*. Quality is important if we are to successfully share in the world market for dairy products. Quality is equally important if we are to maintain and expand our domestic market.

So, we must keep our eye on quality—but we must also stay aware of changes in consumers' food habits and preferences—both in the United States and abroad. We should take advantage

of these changes by being willing to develop new products and to adopt innovations in products, packaging and distribution methods.

(The author is Chief of the Inspection and Grading Branch of the Dairy Division, Agricultural Marketing Service, USDA. His article is based on a speech presented this past fall to the 24th Annual Dairy Manufacturers Conference, at Michigan State University.)

AMS Services in 1964

(Continued from page 5)

States. Products handled under them have a farm value of more than \$1¼ billion a year—40 percent of the farm income from all our fruit and vegetable crops.

Matching Funds

AMS provided aid to States under a Matching Fund Program that helped State departments of agriculture in 43 States to conduct 138 marketing improvement projects.

Food for Defense

AMS continued to expand its capability to manage food supplies in the

event of a national emergency, so as to assure a regular flow of food to areas of need.

Surplus Removal

AMS purchased about \$256 million worth of foods during the year to remove from the market those perishable foods in temporary, price-depressing, excess supply. Such purchases are made under acts of Congress which authorize programs to encourage domestic consumption, exports, and the development of new outlets and uses. These programs provide price assistance to farmers and provide means to help improve the diets of school children and needy persons.

New Movie on Grading And Inspecting Poultry

American poultry is truly "Something to Crow About," a new U. S. Department of Agriculture sound color 27½-minute movie shows, as it traces the steps in the production of poultry meat from egg to table.

The miracle of efficiency of the U. S. poultry industry is impressively illustrated by successive scenes in a hatchery, feed mill, broiler farm, processing plant and supermarket. All this is seen through the eyes of a European woman who is food editor of a popular foreign magazine.

The role of USDA's Agricultural Marketing Service in the inspection and grading of poultry meat is emphasized as a vital service to consumers. Official inspectors are shown at the head of the processing line, examining each individual bird, inside and out, for

cleanliness and wholesomeness. Federal-State graders are seen in action at the end of the line, assigning to each bird its appropriate quality grade.

The abundance, variety and attractiveness of America's poultry food products are dramatized by the retail counter scenes and by specially prepared dishes of many nations around the world.

Climax of the colorful documentary is a backyard barbecue which does the final selling touch.

Prints of the movie are being distributed to the 69 State film libraries in this country and to television stations. Prints may also be purchased by interested organizations, or obtained on loan from the USDA's Motion Picture Service in Washington, D. C.

The Food Stamp Areas

Operation in 41 States and

The District of Columbia

In 1965, Under Act of 1964

BY MIDSUMMER, food stamp programs should be in operation in selected areas in 41 States and the District of Columbia, all of which have expressed a desire to participate in the continuing program authorized by the Food Stamp Act of 1964.

The program is administered nationally by the Agricultural Marketing Service of the United States Department of Agriculture.

The Food Stamp Program has been operating on a pilot basis since May of 1961 and—in August 1964, when the Food Stamp Act was approved by the President—pilot programs were in effect in 40 counties and three cities in 22 States. At the request of the State, all of these pilot operations will continue in the permanent program. In 17 of these 22 States, additional areas will enter the program. A total of 19 States and the District of Columbia will have stamp programs for the first time, under the expansion plans announced by Secretary of Agriculture Orville L. Freeman. In announcing these plans, Secretary Freeman said: "I am pleased that we will be able to make at least a small beginning immediately in every State desiring the program."

The Act, as passed by the Congress, authorized the progressive expansion of the program, over a period of years, to all areas of the country desiring to participate. The planned expansion during this fiscal year should enable nearly one million Americans to share more adequately in our farm abundance and to improve their family nutrition.

Under the Food Stamp Program, low-income families exchange the amount of money they would normally be expected to spend for food for stamp coupons worth more. The family can then use the coupons to purchase food, except for imported items, at retail prices, at any regular retail store approved to accept the coupons.

Food stamps mean not only more and better food for low-income families, but also more local business and better markets for farmers. These are some of the findings of studies in areas where pilot food stamp projects have been operating for three years, to test the program's effectiveness under a variety of conditions.

A study in Detroit, Michigan, showed that the Food Stamp Program increased retail food store sales by eight percent. About 80 percent of the increased food buying power provided under the program was used to increase the consumption of animal products, fruits and vegetables, the foods which bring the best returns to farmers.

The study also showed that the average retail value of food used by a group of families formerly getting donated foods increased by 60 cents per person a week after the Food Stamp Program began.

The farm value of their consumption increased by an average of 26 cents per person a week. Some families who had been receiving donated foods did not choose to take part in the Food Stamp Program, even though food donations ceased when food stamps became avail-

able. These families, however, were included in the before and after study, so that the results would show the total changes in food consumption, which occurred when the Food Stamp Program replaced the direct donation of food in Detroit.

The initial pilot projects operated in Detroit and several other sections of the country: Franklin County in the coal mining area of Southern Illinois; the Virginia-Hibbing-Nashwauk area in the Mesabi iron range of Minnesota; Floyd County in Kentucky; McDowell County in West Virginia; Fayette County in Pennsylvania; San Miguel County in New Mexico; and Silver Bow County in Montana. An additional 25 were added in 1962 and further expanded to a total of 43 areas in 1963.

The following specific areas are designated for inauguration of the program during this fiscal year in accordance with the requests of the respective States. Additional areas in these States will be designated upon the States' request as additional funds become available. (Areas in parentheses are current pilot areas that will be continued under the permanent legislation.)

ALABAMA

Lauderdale County
(Jefferson County)
(Walker County)

ARKANSAS

Phillips County
Pulaski County
(Independence County)

COLORADO

Adams County
Clear Creek County
Denver County
Gilpin County
Jefferson County

CONNECTICUT

Welfare District
No. 6 — Waterbury

DISTRICT OF COLUMBIA

GEORGIA

Habersham County
Hall County
Rabun County
Stephens County

KENTUCKY

Breathitt County
 Johnson County
 Leslie County
 Letcher County
 Magoffin County
 Owsley County
 (Floyd County)
 (Knott County)
 (Perry County)
 Martin County

IDAHO

Benewah County
 Bonner County
 Boundary County
 Clearwater County
 Idaho County
 Kootenai County
 Latah County
 Lewis County
 Nez Perce County
 Shoshone County

INDIANA

Harrison County
 Perry County
 Posey County
 Spencer County
 (Vanderburgh County)

ILLINOIS

Cook County
 (Franklin County)

KANSAS

Bourbon County
 Cherokee County
 Crawford County
 (Rice County)

(MISSOURI)

(City of St. Louis)

(MONTANA)

(Silver Bow County)

NEVADA

Clark County

LOUISIANA

Acadia Parish
 Natchitoches Parish
 Pointe Coupee Parish
 Vermilion Parish
 St. Landry Parish
 St. Martin Parish
 Winn Parish
 (Avoyelles Parish)
 Evangeline Parish)

MARYLAND

City of Baltimore
 Dorchester County

MICHIGAN

Gogebic County
 Houghton County
 Wayne County
 (City of Detroit)

MINNESOTA

City of Minneapolis
 Koochiching County
 (Carlton County)
 (Itasca County)
 (St. Louis County)
 Lake County

PENNSYLVANIA

Allegheny County
 Clearfield County
 Greene County
 Indiana County
 Somerset County
 (Cambria County)
 (Fayette County)
 (Luzerne County)
 (City of Pittsburgh)

NEW MEXICO

Rio Arriba County
 Sandoval County
 Taos County
 (Mora County)
 (San Miguel County)
 (Santa Fe County)

NORTH CAROLINA

Forsyth County
 Halifax County
 Martin County
 Northampton County
 Surry County
 (Nash County)

OHIO

Hamilton County
 (Cuyahoga County)
 (Lucas County)

(OREGON)

(Multnomah County)

WEST VIRGINIA

Boone County
 Fayette County
 Kanawha County
 Raleigh County
 (Logan County)
 (McDowell County)
 (Mingo County)
 (Wayne County)

WISCONSIN

Langlade County
 Price County
 (Douglas County)
 (Iron County)

TENNESSEE

Campbell County
 Claiborne County
 Fayette County
 Hardeman County
 Haywood County
 Scott County
 (Grundy County)
 (Hamilton County)
 (Marion County)
 (Sequatchie County)

(VIRGINIA)

(Dickenson County)
 (Lee County)
 (Wise County)

(WASHINGTON)

(Grays Harbor County)

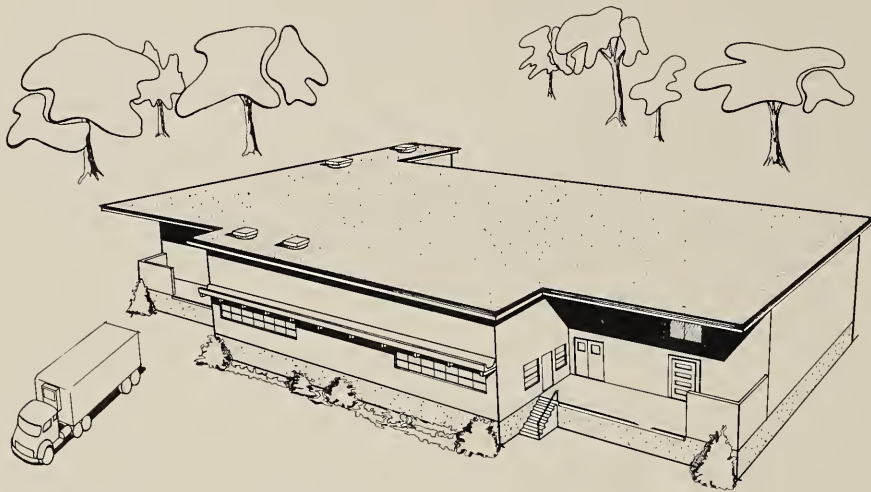
WYOMING

Campbell County
 Crook County
 Fremont County
 Johnson County
 Sublette County
 Teton County
 Weston County

The following States have indicated their strong desire to participate in the program but have not yet completed their reviews with USDA in regard to specific areas. Announcements of specific areas in these States will be forthcoming at the earliest possible date as these proposals are developed and approved.

Alaska
 California
 Hawaii
 Maine
 Mississippi
 Nebraska
 New Jersey
 New York
 Rhode Island
 South Carolina
 Texas
 Utah
 Vermont

A New Design for



A FURTHER PROCESSING POULTRY PLANT

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
POULTRY DIVISION

By Frank Blood

TODAY'S housewife has come to demand more and more prepared foods. A large part of foods today are ready-to-cook or even pre-cooked. These foods come from many modern further-processing plants around the country, which have greatly increased in number in the last few years.

The conventional slaughtering and eviscerating plants which still put out most of the poultry products sold on the market are as a rule not designed or equipped to produce the number of specialty items the consumer demands. Plants producing such items have different procedures and functions and, therefore, require different construction, layout and equipment.

The U. S. Department of Agriculture has a major responsibility for the wholesomeness of poultry food products, under the Poultry Products Inspection Act. This Act, which became fully effective six years ago this month, requires official USDA inspectors to certify that poultry products

moving in interstate commerce are wholesome and fit for human food. The Act also requires that poultry processing plants be constructed, operated and maintained in a sanitary manner. Each plant must be thoroughly inspected for compliance with detailed specifications to assure that the poultry food products it manufactures are consistently clean and safe to eat.

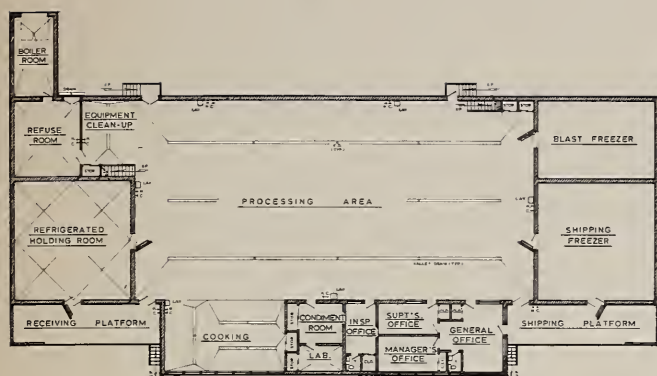
With the great boom in convenience type foods in the last few years, many processors moved into this field. There was much hasty remodeling of old plants to start production of these food products as fast as possible. When application for inspection service was made, USDA frequently found that adequate sanitary precautions had not been provided. Expensive repairs or changes were sometimes involved.

The Poultry Division in the Agricultural Marketing Service has consulted for years with poultry processing firms to advise on plant construction, equipment, layout, machinery, maintenance, sanitation, etc. Realizing the new need of further processing plants, the USDA has developed a model set of plans

and specifications for such a plant. Special drawings have been prepared to serve as guides to companies planning to build new plants or to adapt or remodel existing plants for such further processing work.

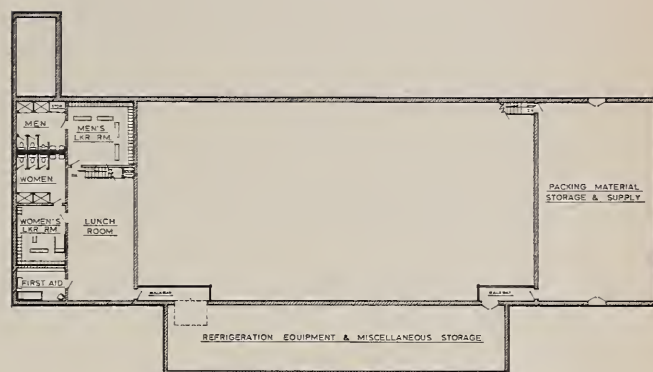
With new plants, it is easier to provide full safeguards for a wholesome food product. These drawings and specifications are designed to do that. Poultry Division records show that there are now about 500 plants manufacturing and processing new poultry food products, a fifth more than three years ago. The number of plants that have no slaughtering or eviscerating facilities, that do only further processing, also increased about the same amount in this time. Last year more than 800 million pounds of poultry were cut up, and another nearly 600 million pounds were made into frozen or canned convenience foods. All indications are for steady future increases in such products, with new methods and facilities to manufacture them at lowest possible cost while still insuring a good food product.

Our Facilities Section has been busy



• FIRST FLOOR PLAN •

0 5 10 15 20 30 40 50
SCALE OF FEET



• SECOND FLOOR PLAN •

0 5 10 15 20 30 40 50
SCALE OF FEET

working out flexible plans for a further processing plant that will permit efficient operations, will comply with good sanitary practice, and still be capable of economical modification and expansion for future developments in this processing field.

The types of processing included in this category are those which go beyond the eviscerating stage, such as cut up poultry, stuffing whole carcasses, deboning, cooking, canning, smoking, pie-making, dinners, loaves, and rolls.

The model plant design shown here is 200 by 80 feet, with a partial second floor. First floor is at truck body height for loading or unloading convenience. It can be built with a wide variety of building materials, including prefabricated. The left platform is for receiving, the one at right for shipping. The floor is adaptable to a great many different further processing operations. Many different processes were laid out in this plant during the designing of the sketch.

There is a large processing area in the center, 60 by 120 feet, open to the roof, and the product flow is from left to right. As the product is received from other plants, it is moved directly into the refrigerated holding room or the processing area, to which there is direct access without going through the refrigerated room. All outside doorways are self-closing.

The 35- by 35-foot refrigerated receiving room holds about three carlots of poultry, a working capacity of about 70 fully-loaded pallets stacked at single height. Construction require-

ments will vary depending on whether it is used as a cooler or as a freezer.

In the processing area, the equipment cleanup, cooking, and actual manufacturing processes are all within one large area. This minimizes costs of construction and maintenance, and facilitates movement of product, equipment, and personnel.

The main exhaust ventilation system is located at the cooking area, with another at the cleanup area and refuse room. Filtered air intakes along the rear wall bring the air across the processing area and out at the cooking area. The entire plant floor is smooth-finished and impervious to moisture (as are all walls up to six feet in height) for quick and thorough cleaning, and the floor is graded for drainage where the product is handled.

The refuse room is at left rear so as to have least inplant hauling distance, direct loading out, and to prevent movement of waste through areas where finished product is handled.

The boiler room is isolated at the rear corner for safety to employees and the processing operations, and to conserve valuable plant space. The room has space for a workshop.

This plan provides for a blast freezer room on the right side of the building to prepare the finished product for shipment. Other methods of continuous quick-freezing are available and acceptable which could make this room unnecessary, and the floor space it occupies could be used for other operations such as packing.

The management offices in this plan

(general, plant superintendent and plant manager) are designed to give immediate access to plant operations and continuous visual contact with processing. Also, visitors do not have to go through any processing area to meet management personnel. Larger plants may want to add a conference room and offices for sales, shipping and bookkeeping.

The second floor has employee welfare facilities at the left (lunchroom, first-aid room, and separate locker and restrooms); and packing material storage room at the right. Refrigeration equipment and miscellaneous storage could be at the front.

A processing plant is a big investment. A lot of thought and effort must go into planning if the results are to be satisfactory. The initial construction cost should not be kept so low that necessary facilities are restricted or inefficiencies in future operation may result. If operating costs can be reduced by a reasonable increase in initial construction cost, actual money savings will result in the long run.

The plant shown in this sketch has about 21,000 square feet of floor space, including the second floor and the platforms. Estimated cost of the building is \$120,000. Land, site preparation, paving, and equipment would be in addition. Volume capacity would depend on the product manufactured.

(The author is Deputy Director of the Poultry Division, AMS. This article is based on his address at a Purdue University conference, September 22, 1964.)

Can Potato Growers Stand Prosperity?

By K. W. Schaible

CAN POTATO growers stand prosperity? Well, 1965 should give us the answer.

Prosperity has been virtually thrust upon the potato industry in 1964.

Old-timers in the potato business say there has never been a year like this one, when each seasonal crop turned out short, and prices stayed high throughout the marketing season. Net returns to growers should set new records.

Unfortunately . . . history warns us this will probably mean heavy plantings, high yields, large crops and low prices for the next couple of years.

Why? Because potato growers have traditionally responded to high prices by overplanting for the following year—and often for the following *two* years.

The marketing specialists of the Agricultural Marketing Service, U. S. Department of Agriculture, who make up the acreage-marketing guides for potatoes, point up an example: For the 1959 summer and fall crops, growers' prices averaged \$2.11 per hundredweight—94 cents more than the low 1958 price of \$1.17. In 1960, growers planted 42,000 more acres of potatoes! In 1961, in spite of lower 1960 prices, plantings were again increased . . . by 111,500 acres!

That 1961 acreage produced a record 294 million hundredweight of potatoes. Record crops are bad news for potato growers, however. It's an unfortunate fact of economics that small potato crops bring more money than big ones.

The small 1959 crop sold for \$492 million—and the record 1961 crop brought only \$354 million. You could say it cost the potato industry \$138 million to set its record.

But let's get back to 1964. The

potato marketing year got off to a good start with small storage stocks and processors taking larger supplies than anticipated.

Spring potato growers, coming off two bad years, cut their acreage 12 percent, and cold, wet weather cut the yields on the acres that were planted. The result was a spring crop 19 percent below last year. Prices were excellent, averaging \$3.64 per hundredweight. For comparison's sake, the 1963 price was \$1.91.

Summer potato growers hadn't cut their acreage, but Mother Nature cut their yields. The early summer crop was 12 percent smaller than last year, due to drouth in some areas and heavy rains in others.

The late summer crop would have been smaller than normal too, except that growers in Long Island, Wisconsin and Washington moved some of their fall-crop acreage to market early, as late summer potatoes.

Fall crop plantings weren't down this year. They were up a bit as a matter of fact. But again, the weather stepped in and cut available supplies. There was bad weather in the spring, there were almost-unheard-of August frosts in the Red River Valley, Idaho, Oregon, and Colorado; twenty-inch rains in the Red River Valley; and earlier-than-normal frosts in Wisconsin and Michigan. All of this bad weather kept the tubers small and killed some vines. The upshot is a fall crop that's running 10 percent smaller than last year.

Prices have been averaging above parity since early spring.

Naturally, every potato grower wishes he had more potatoes this year, to take advantage of the wonderful prices.

But don't miss this point . . . if every potato grower *had* more potatoes, then the prices wouldn't have been what they were. They would have been right down where they were last year, when supplies were more than ample.

There is no suddenly-expanded market for potatoes. Consumers haven't become overnight converts to potatoes for three meals a day.

This year's high prices are simply due to bad weather that cut per-acre yields, plus cuts in winter, spring and early summer acreages.

The odds are that next year, everyone *will* have more potatoes.

For one thing, weather may be more favorable, and yields could come back to normal in most areas.

For another thing, growers will probably plant more potatoes. That's the historical pattern in the potato industry.

It looks now as though growers' prices for 1964 may well average 50 percent higher than 1963. Based on the reactions of growers in the past that would mean we can expect about 6.5 percent more acres to be planted to potatoes in 1965.

That extra acreage, along with more normal yields, could easily give us a crop 10 to 15 percent larger than this year.

Processors will probably be taking a few more potatoes next year to rebuild their inventories of processed potato items. But you can bet that the market will *not* take 10 to 15 percent more potatoes at the same high price level paid this year.

That's the trouble with prosperity in the potato business. It seldom lasts more than one year.

(The author is Chief of the Vegetable Branch, Fruit and Vegetable Division, AMS.)